FIG. 1

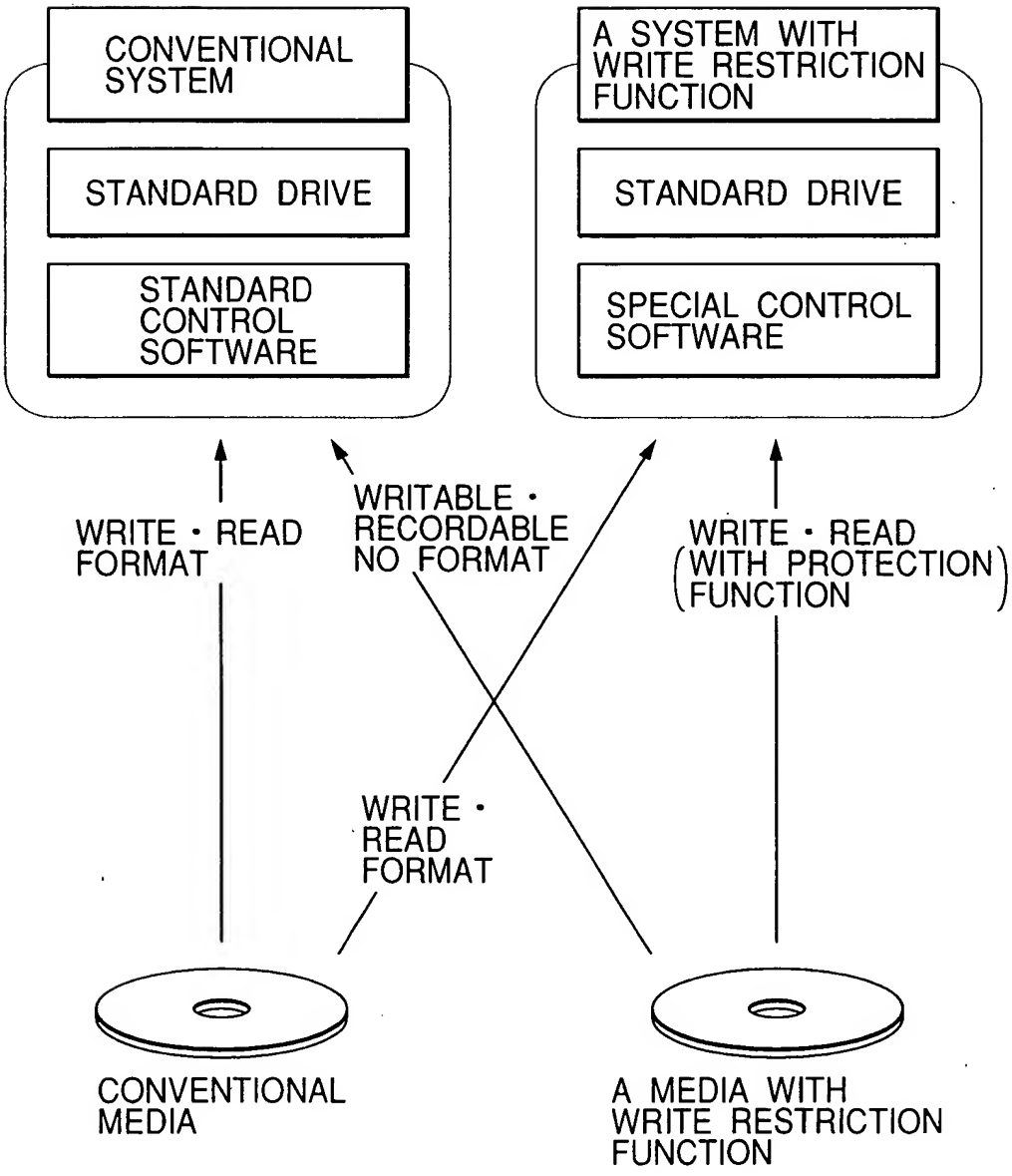
CONVENTIONAL SYSTEM
STANDARD DRIVE
STANDARD CONTROL SOFTWARE
A SYSTEM WITH WRITE RESTRICTION FUNCTION
STANDARD DRIVE
SPECIAL CONTROL SOFTWARE
WRITE · READ FORMAT
WRITABLE · RECORDABLE NO FORMAT
WRITE · READ (WITH PROTECTION FUNCTION)
WRITE · READ FORMAT
CONVENTIONAL MEDIA
A MEDIA WITH WRITE RESTRICTION FUNCTION

FIG. 2

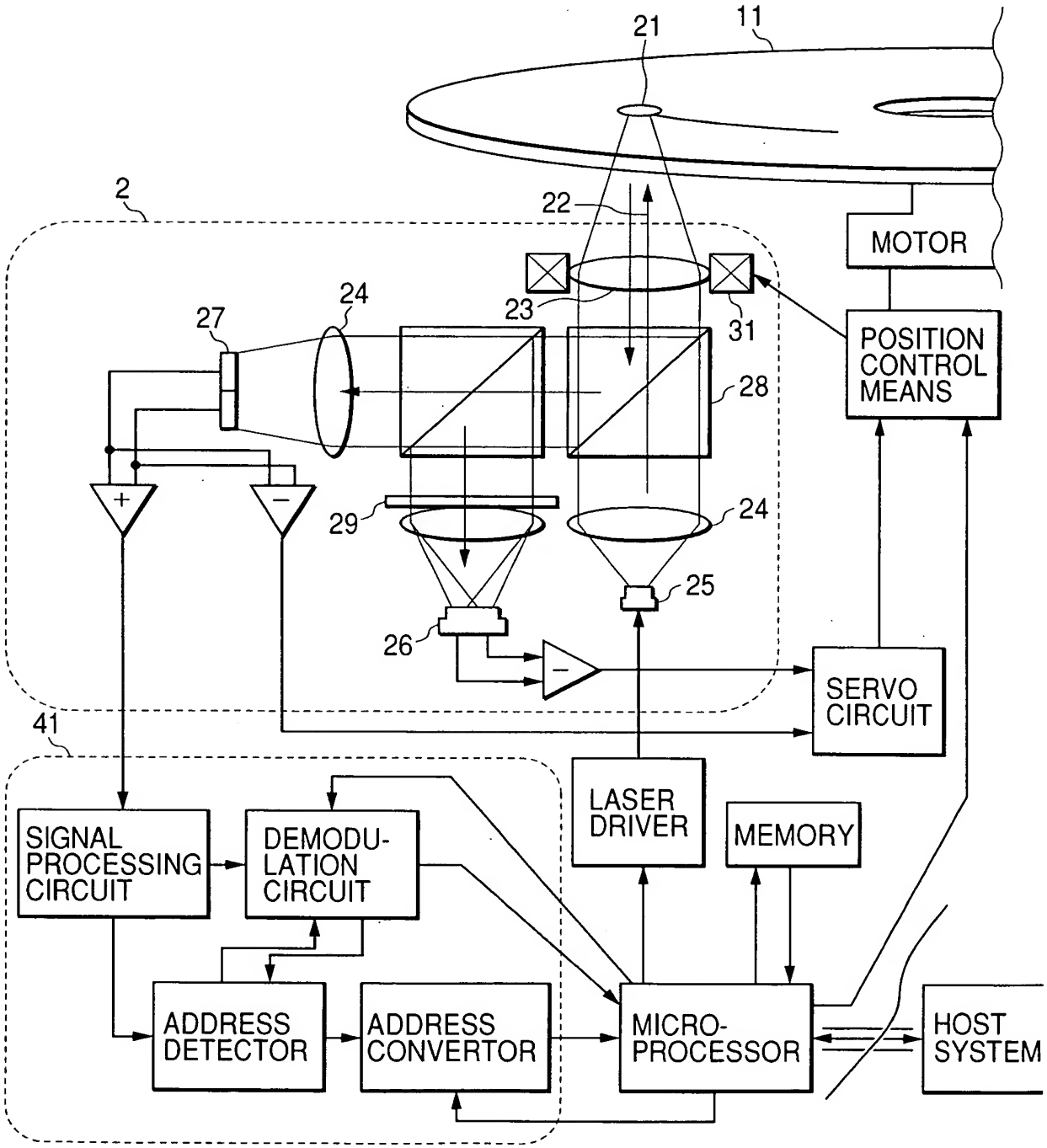
21
11
2
22
MOTOR
24
23
31
27
POSITION CONTROL MEANS
28
+
−
29
24
25
26
−
SERVO CIRCUIT
41
LASER DRIVER
MEMORY
SIGNAL PROCESSING CIRCUIT
DEMODU-LATION CIRCUIT
ADDRESS DETECTOR
ADDRESS CONVERTOR
MICRO-PROCESSOR
HOST SYSTEM

FIG. 3 - PRIOR ART

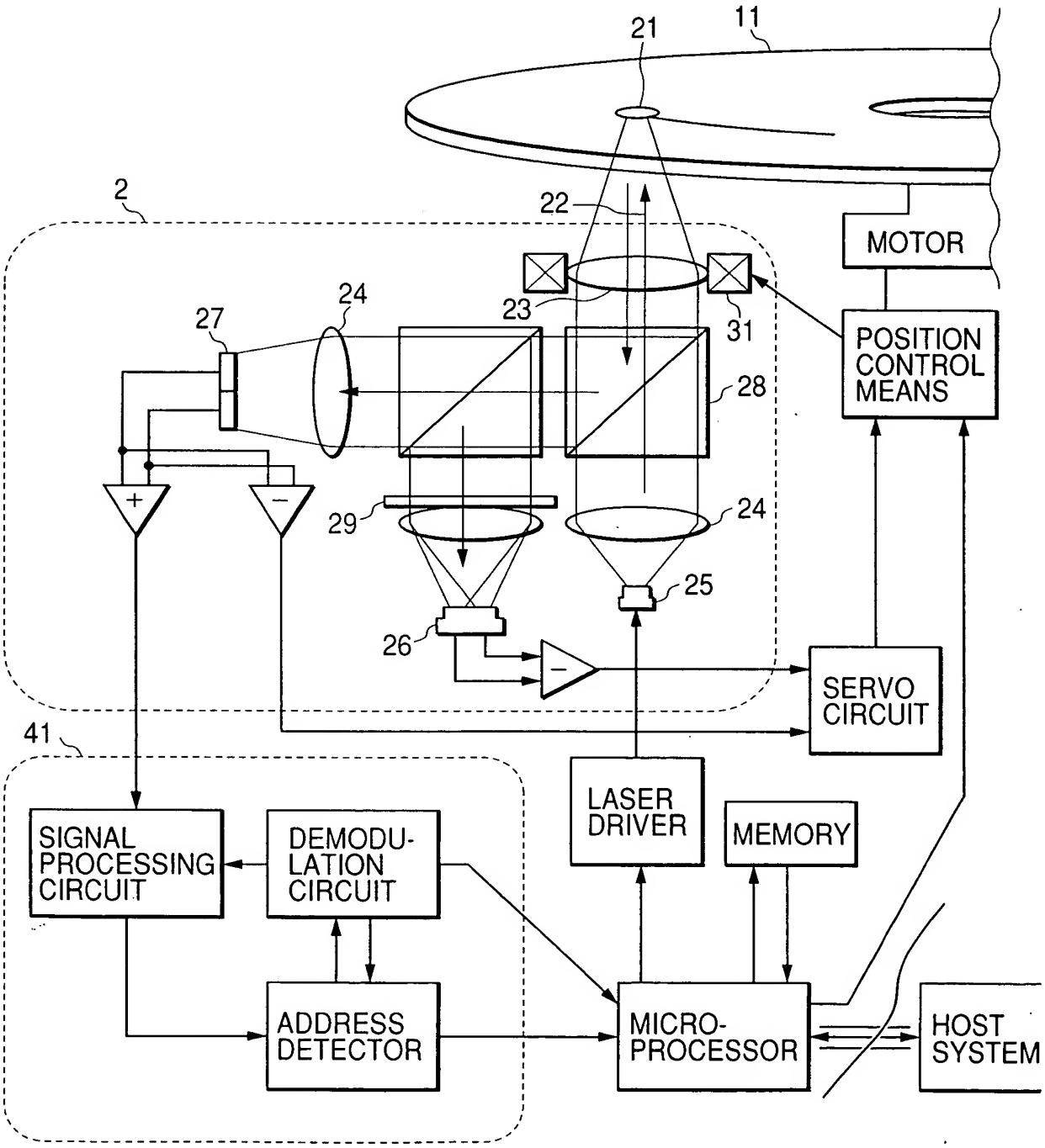

FIG. 4

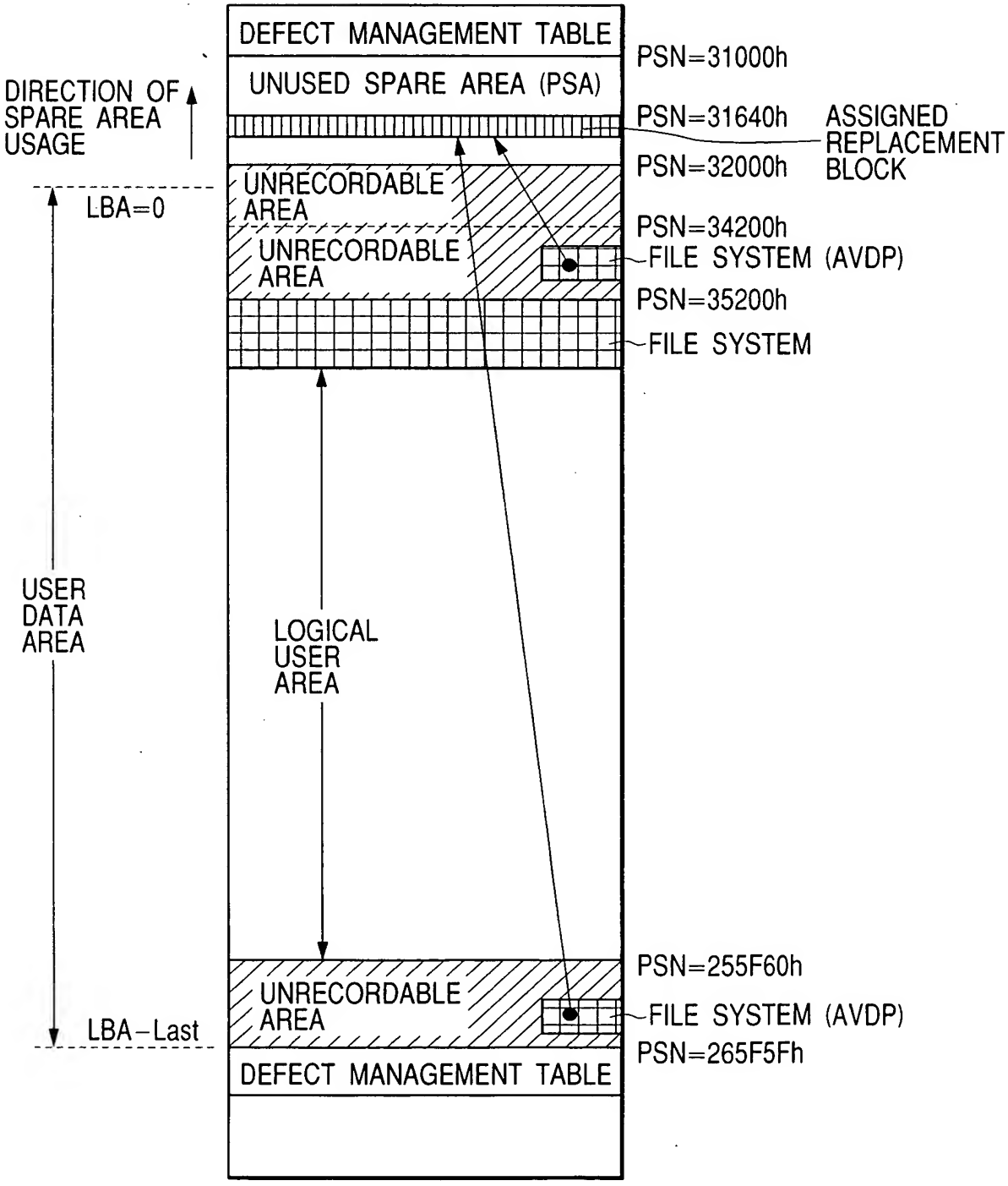
DEFECT MANAGEMENT TABLE
PSN=31000h
UNUSED SPARE AREA (PSA)
DIRECTION OF SPARE AREA USAGE
PSN=31640h
ASSIGNED REPLACEMENT BLOCK
PSN=32000h
UNRECORDABLE AREA
LBA=0
PSN=34200h
UNRECORDABLE AREA
FILE SYSTEM (AVDP)
PSN=35200h
FILE SYSTEM
USER DATA AREA
LOGICAL USER AREA
PSN=255F60h
UNRECORDABLE AREA
FILE SYSTEM (AVDP)
LBA-Last
PSN=265F5Fh
DEFECT MANAGEMENT TABLE

FIG. 5 - PRIOR ART

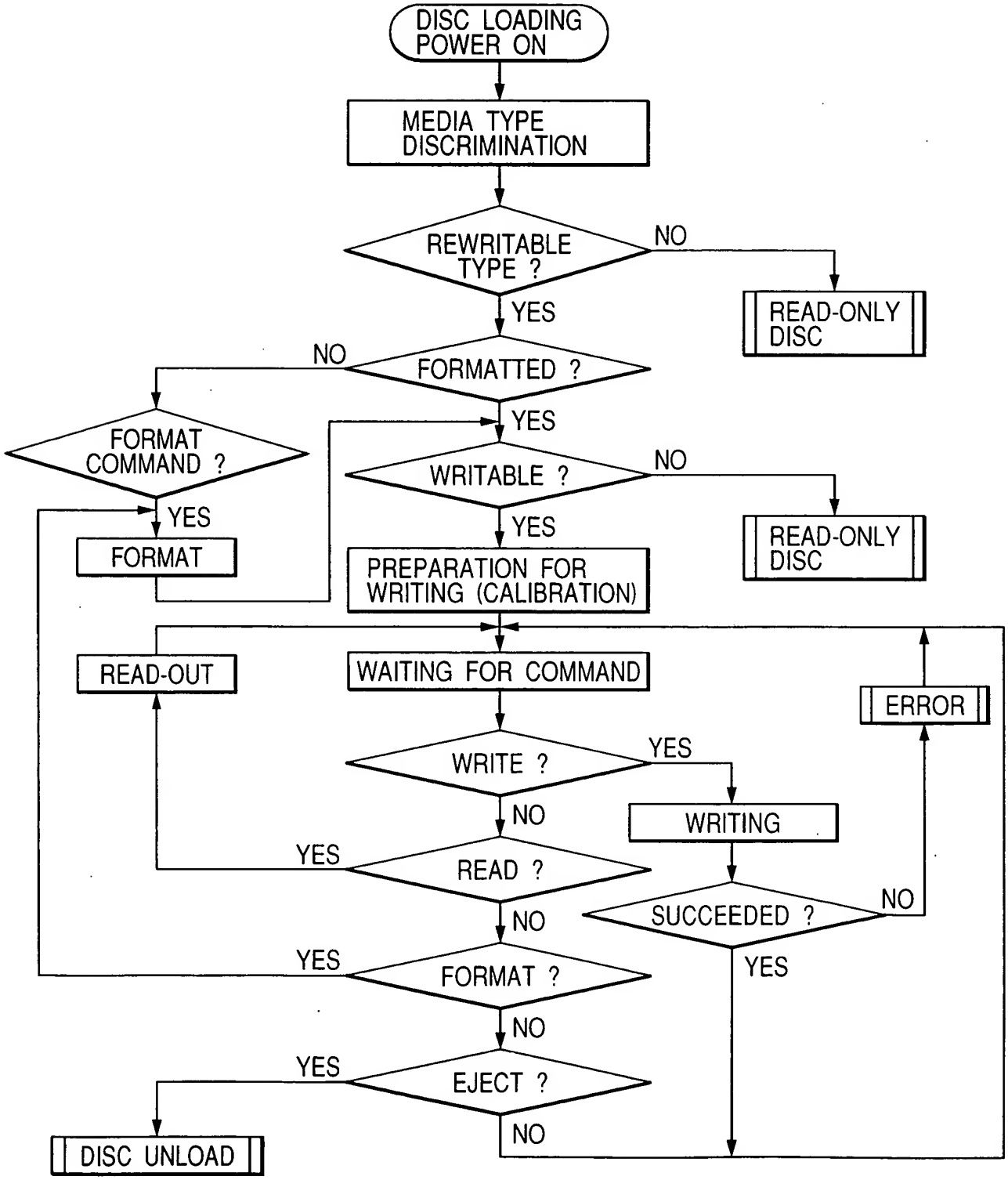

FIG. 6

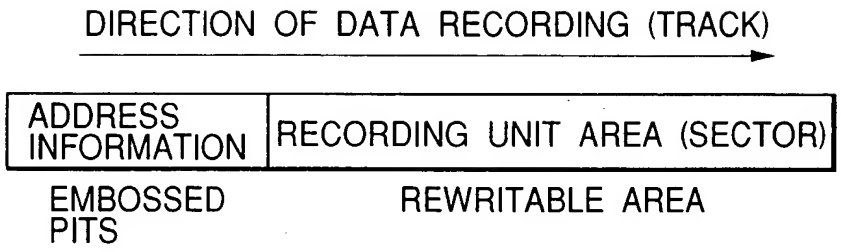
DIRECTION OF DATA RECORDING (TRACK)
ADDRESS INFORMATION
RECORDING UNIT AREA (SECTOR)
EMBOSSED PITS
REWRITABLE AREA

FIG. 8

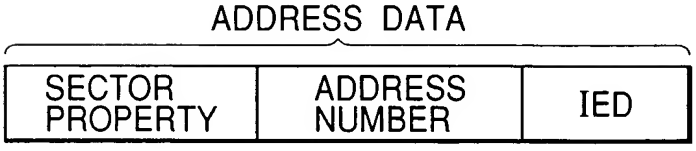
ADDRESS DATA
SECTOR PROPERTY
ADDRESS NUMBER
IED

FIG. 7

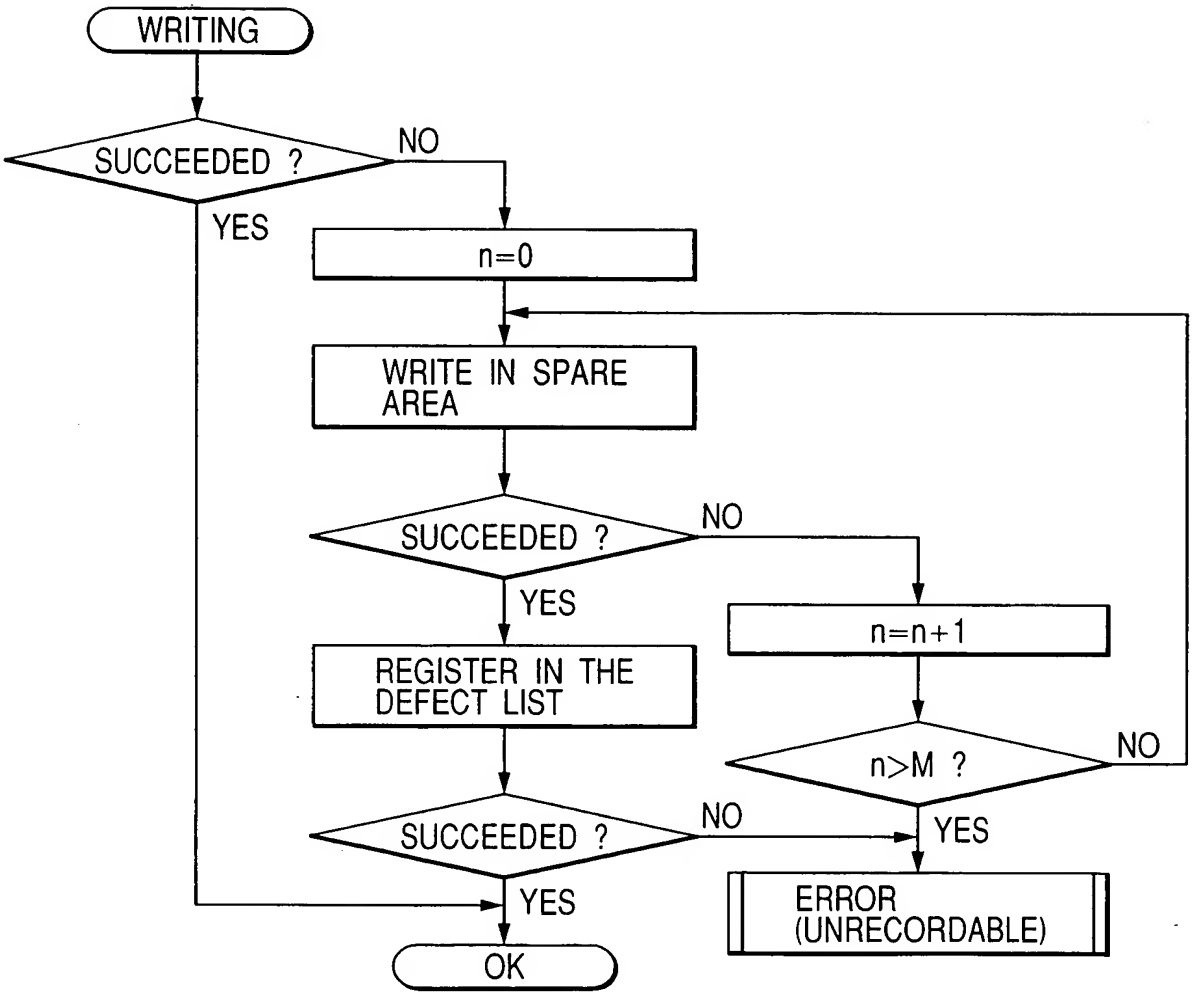
WRITING
SUCCEEDED ?
NO
YES
n=0
WRITE IN SPARE AREA
SUCCEEDED ?
NO
YES
n=n+1
REGISTER IN THE DEFECT LIST
n>M ?
NO
SUCCEEDED ?
NO
YES
YES
ERROR (UNRECORDABLE)
OK

FIG. 9

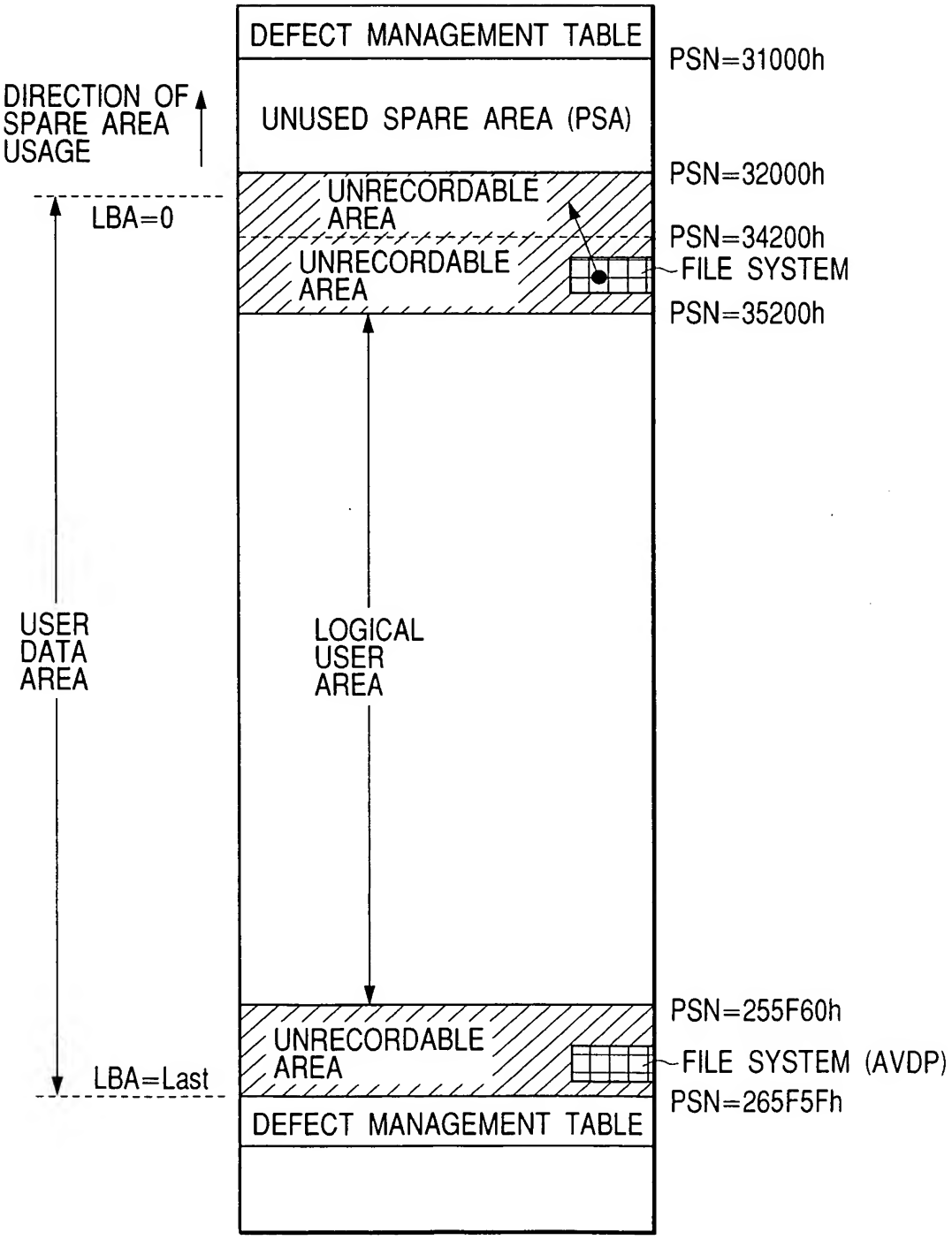
DEFECT MANAGEMENT TABLE
PSN=31000h
DIRECTION OF SPARE AREA USAGE
UNUSED SPARE AREA (PSA)
PSN=32000h
UNRECORDABLE AREA
LBA=0
PSN=34200h
UNRECORDABLE AREA
FILE SYSTEM
PSN=35200h
USER DATA AREA
LOGICAL USER AREA
PSN=255F60h
UNRECORDABLE AREA
FILE SYSTEM (AVDP)
LBA=Last
PSN=265F5Fh
DEFECT MANAGEMENT TABLE

FIG. 10

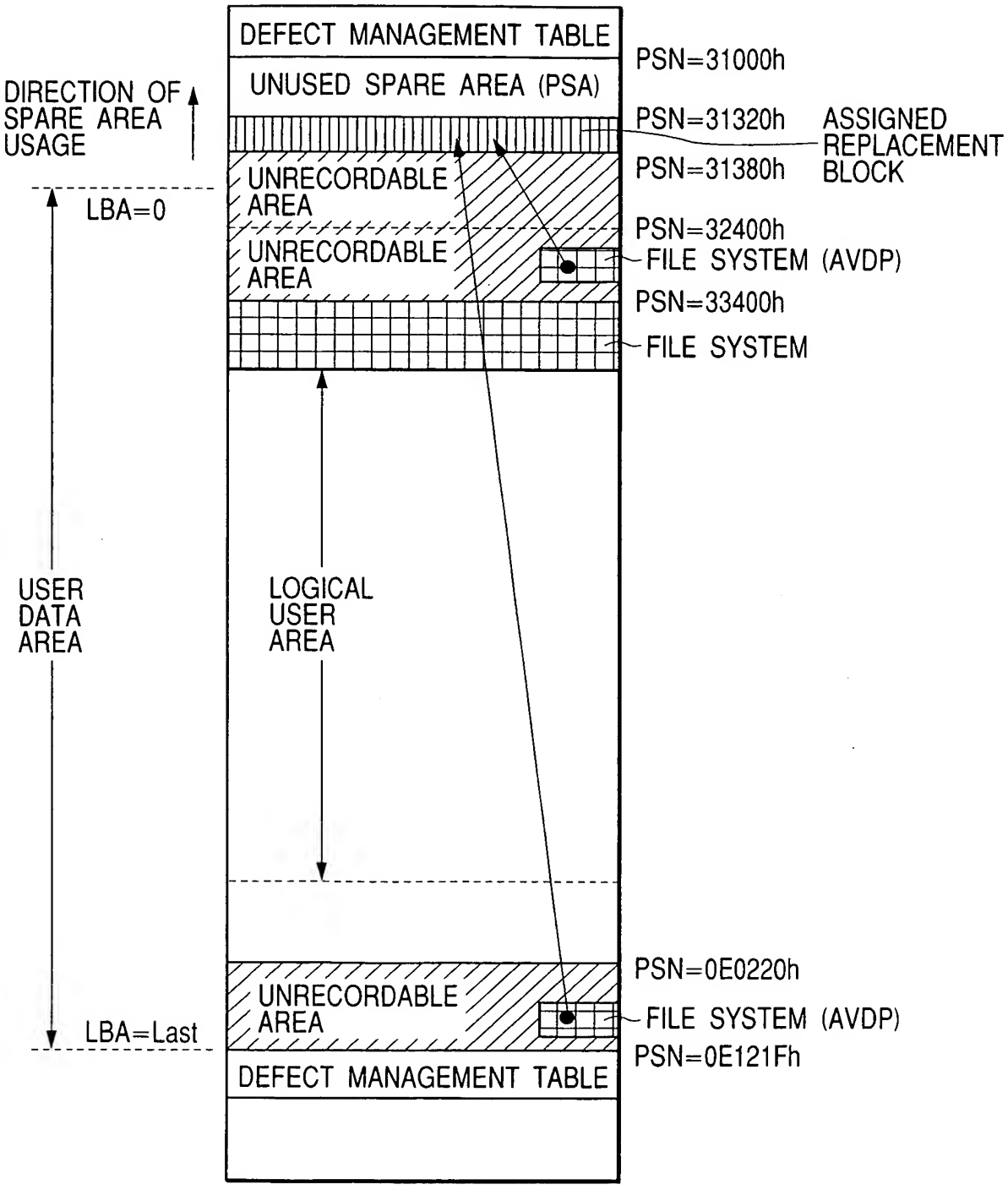
DEFECT MANAGEMENT TABLE
UNUSED SPARE AREA (PSA)
DIRECTION OF SPARE AREA USAGE
PSN=31000h
PSN=31320h
ASSIGNED REPLACEMENT BLOCK
PSN=31380h
UNRECORDABLE AREA
LBA=0
PSN=32400h
UNRECORDABLE AREA
FILE SYSTEM (AVDP)
PSN=33400h
FILE SYSTEM
USER DATA AREA
LOGICAL USER AREA
PSN=0E0220h
UNRECORDABLE AREA
FILE SYSTEM (AVDP)
LBA=Last
PSN=0E121Fh
DEFECT MANAGEMENT TABLE

FIG. 11(a)

PDL (PRIMARY DEFECT LIST)

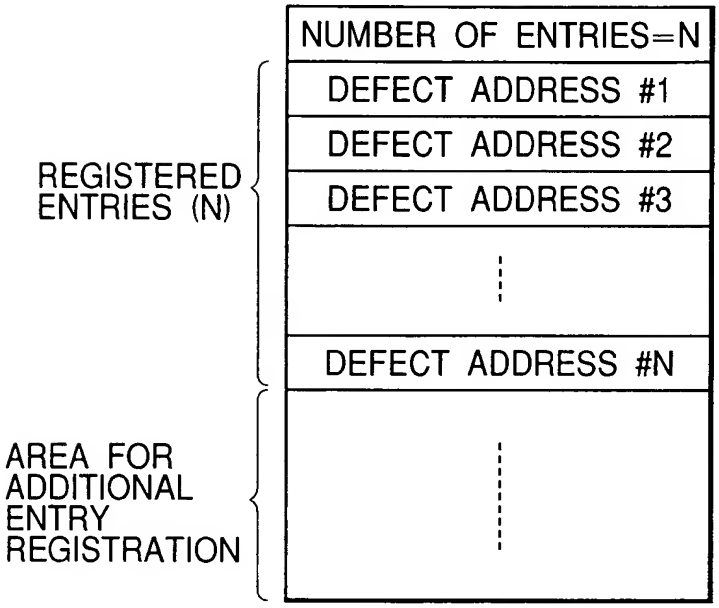

FIG. 11(b)

SDL (SECONDARY DEFECT LIST)

HEADER	NUMBER OF ENTRIES=M	
SLR=0	DEFECT ADDRESS #10	REPLACEMENT ADDRESS #1
SLR=1	DEFECT ADDRESS #11	————
SLR=0	DEFECT ADDRESS #12	REPLACEMENT ADDRESS #2
SLR=0	DEFECT ADDRESS #X	REPLACEMENT ADDRESS #Y

REGISTERED ENTRIES (M)

AREA FOR ADDITIONAL ENTRY REGISTRATION